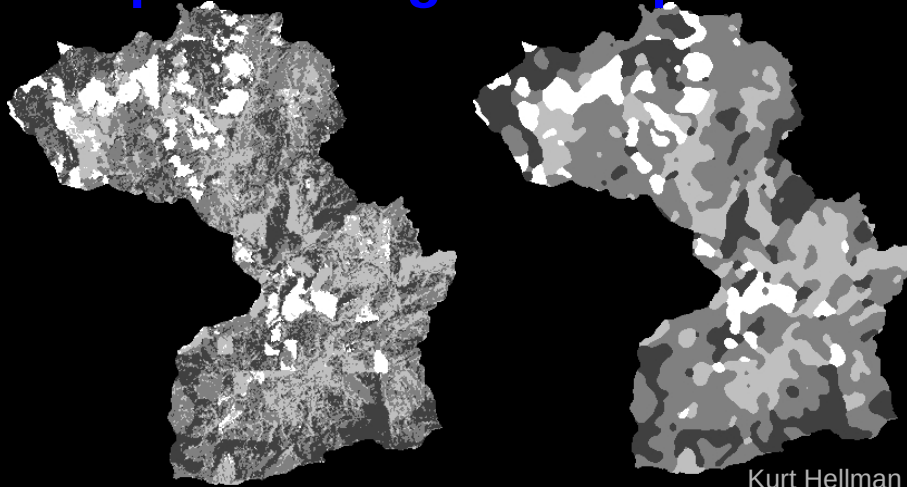
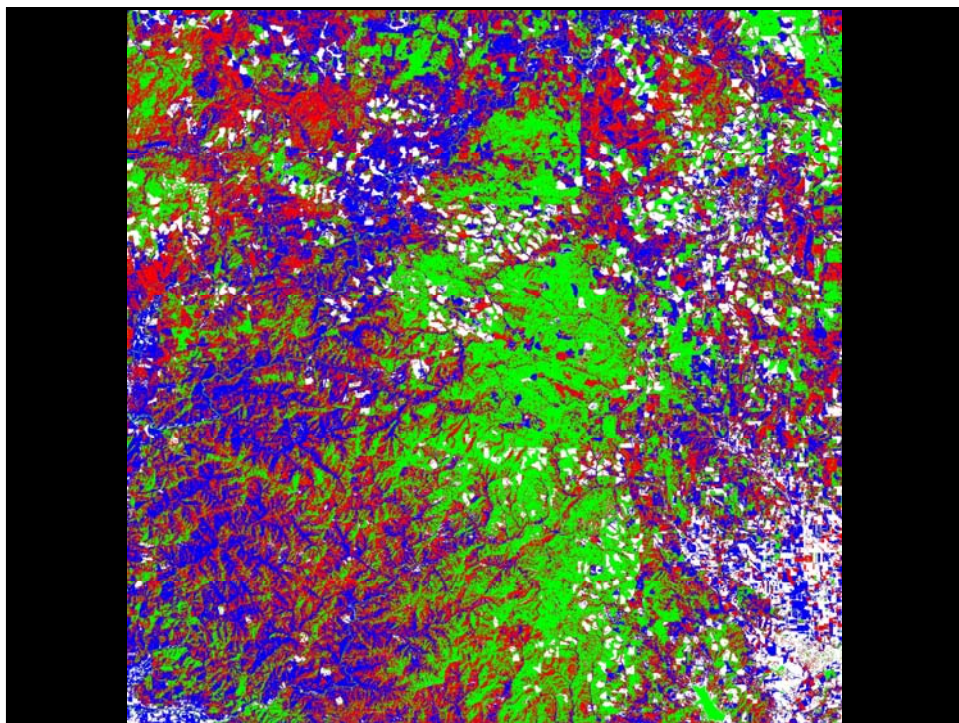


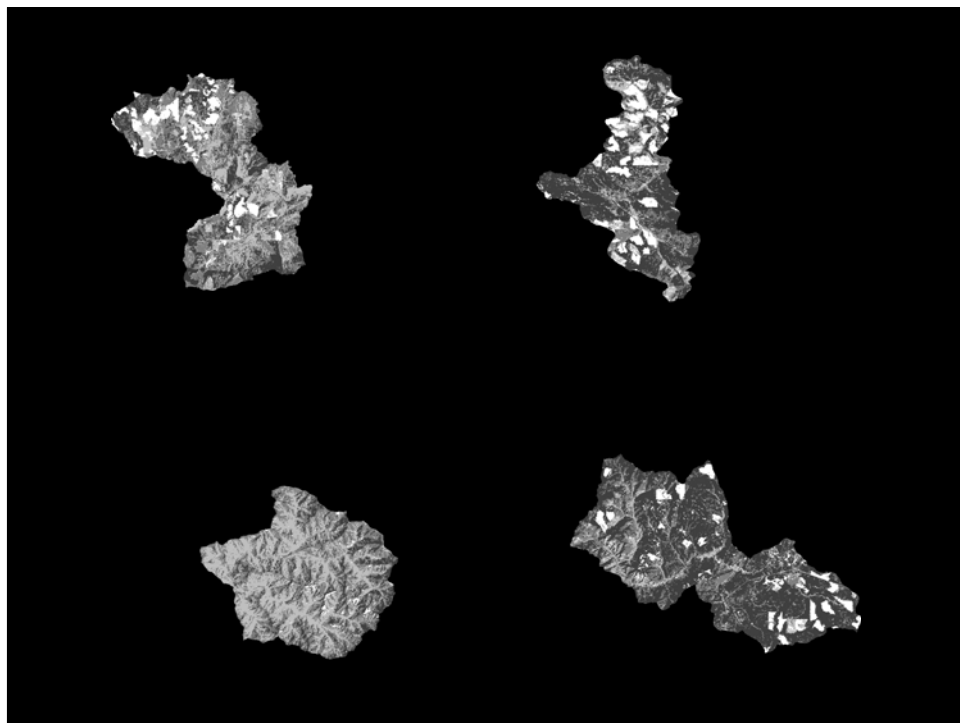
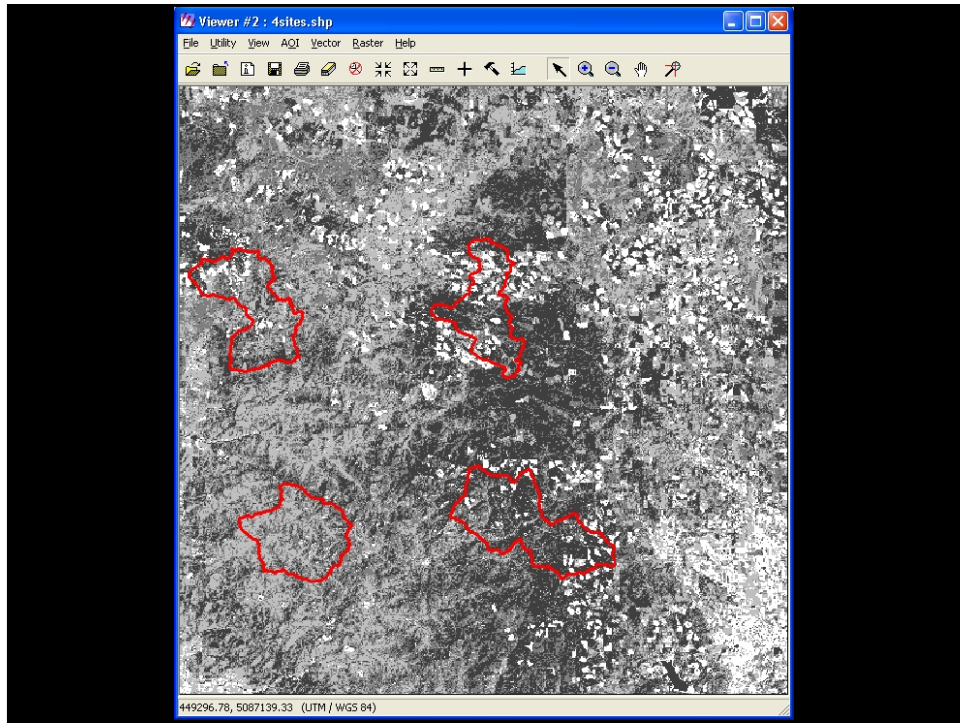
The sensitivity of landscape pattern metrics to post processing techniques



Kurt Hellman







Post Processing Treatments

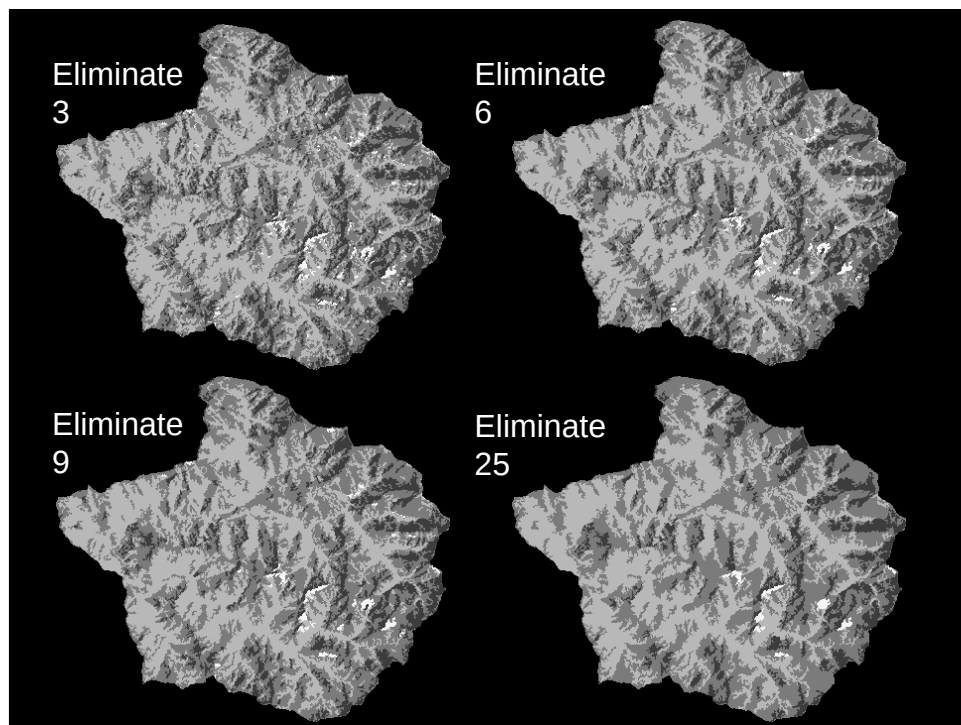
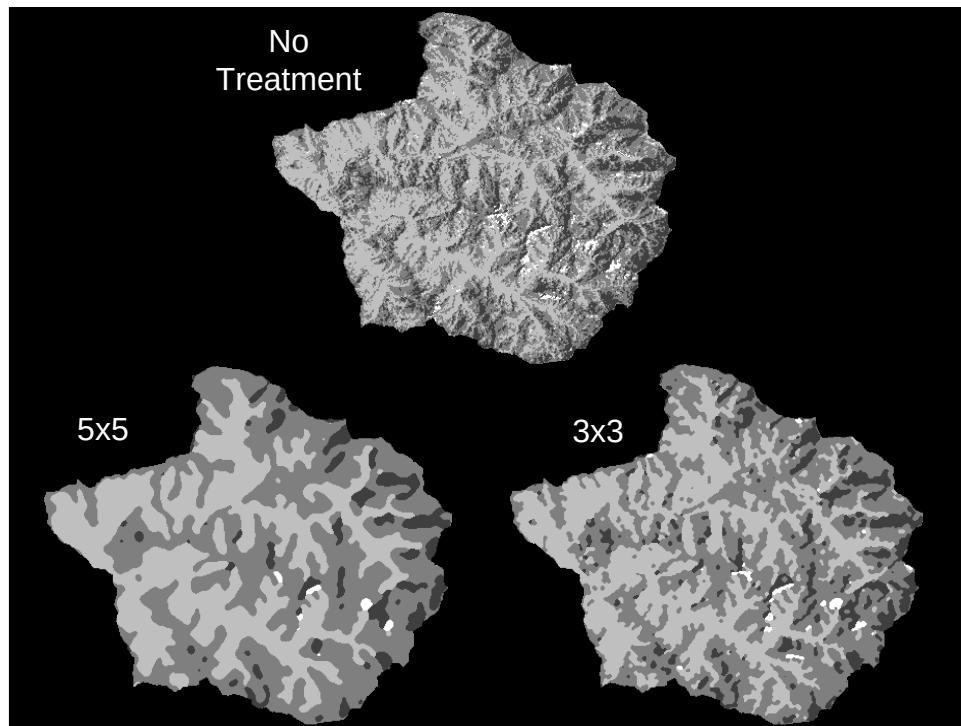
- Majority
- Eliminate
- Sieve ?

Majority

- Most common value in a moving window
- 3x3 and 5x5
- Run process 6 times for stability

Eliminate

- Removes clumps of contiguous pixels that are below a certain threshold
- 3, 6, 9, 25
- First Create “clump layer”
- Then eliminate clumps below the threshold & fill in holes with surrounding larger patches
- Operates using a similar Focal Majority Filter



METRICS

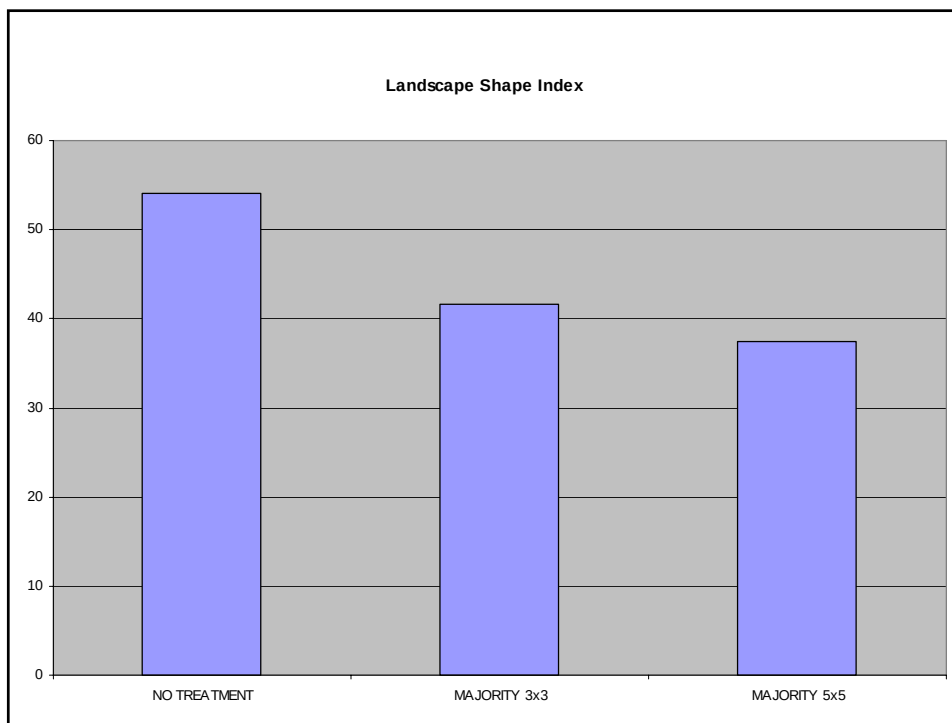
PD	Patch Density
LSI	Landscape Shape Index
PFRAC	Perimeter-Area Fractal Dimension
CONTAG	Contagion Index
IJI	Interspersion and Juxtaposition Index
COHESION	Patch Cohesion Index
PRD	Patch Richness Density
SHDI	Shannon's Diversity Index
SIDI	Simpson's Diversity Index
SHEI	Shannon's Evenness Index
SIEI	Simpson's Evenness Index

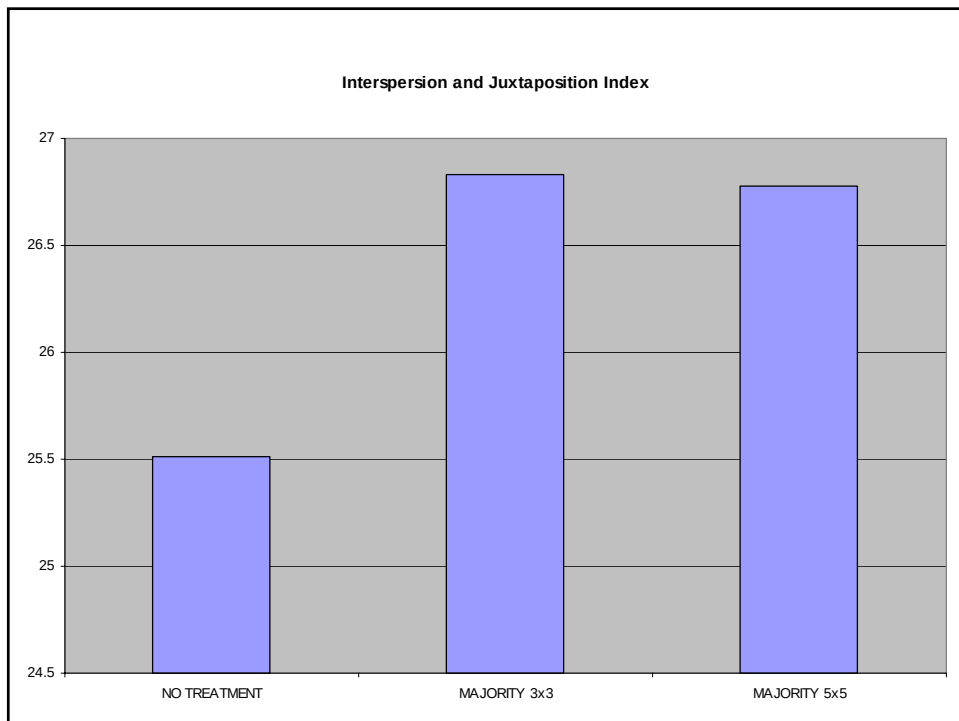
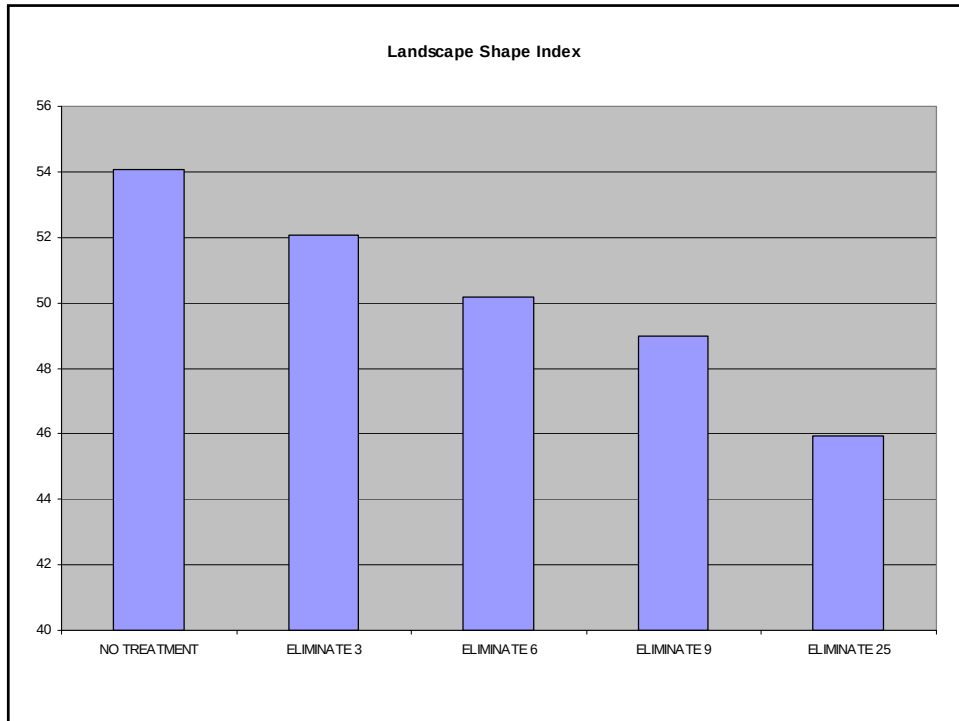
METRIC ID	PD	LSI	PAFRAC	CONTAG	IJI	COHESION
No Treatment	71.295325	54.05375	1.534325	78.088175	25.51448	95.85305
Majority 3x3	32.981825	41.7021	1.50145	79.348475	26.8323	97.034625
Majority 5x5	23.9945	37.3795	1.493425	80.138625	26.77865	97.4983

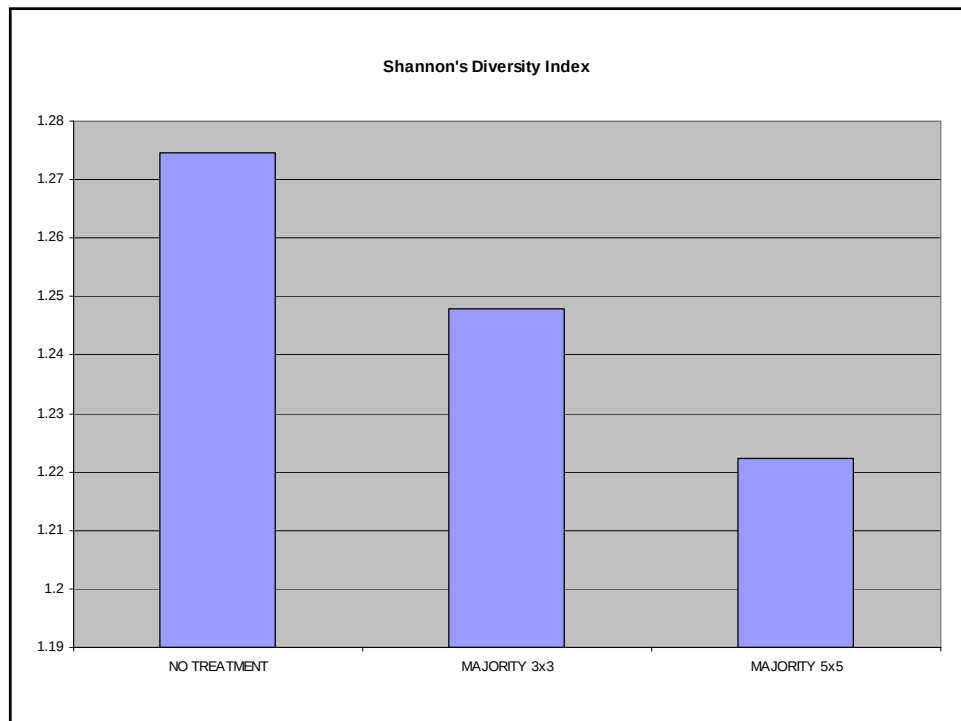
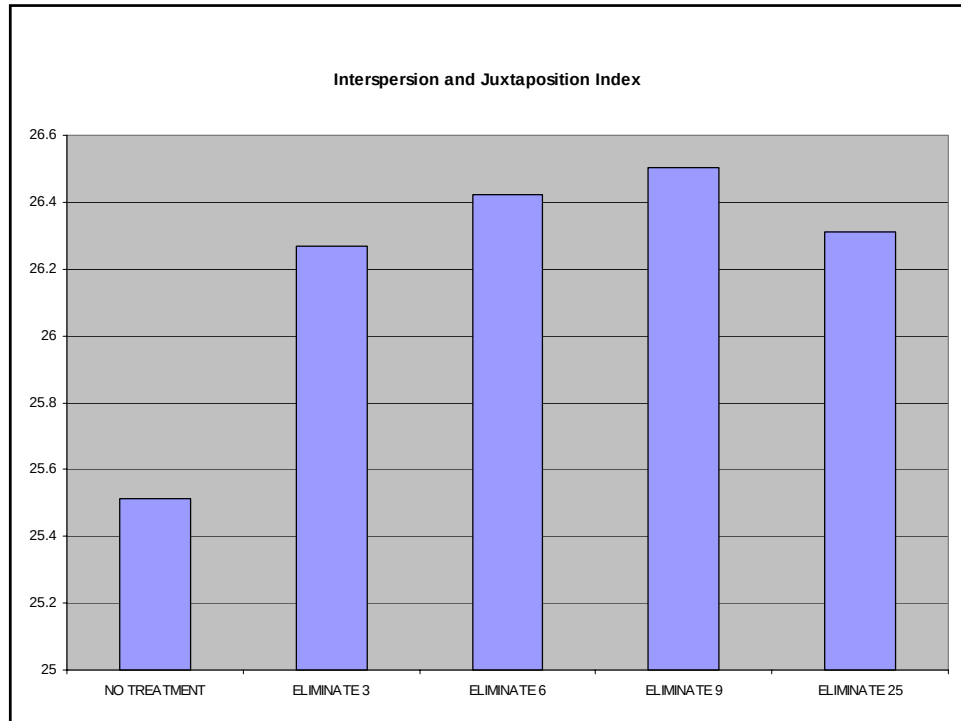
METRIC ID	PRD	SHDI	SIDI	SHEI	SIEI
No Treatment	0.6545	1.274675	0.6342	0.2828	0.641275
Majority 3x3	0.65205	1.248	0.6267	0.27705	0.633725
Majority 5x5	0.66155	1.222325	0.620575	0.270525	0.627425

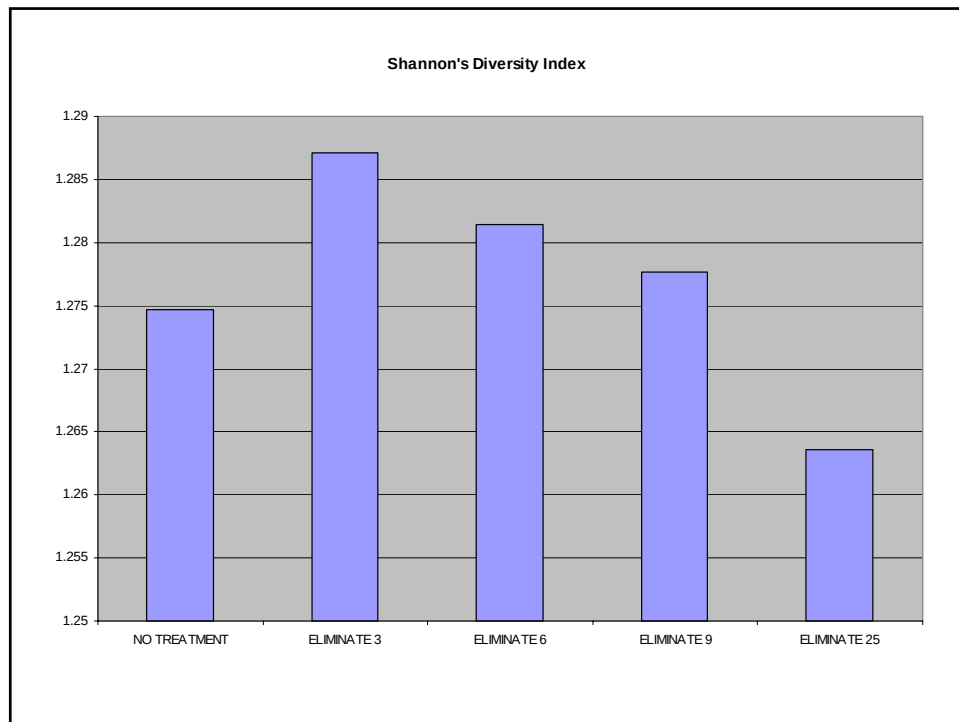
METRIC ID	PD	LSI	PAFRAC	CONTAG	IJI	COHESION
No Treatment	71.295325	54.05375	1.534325	78.088175	25.51448	95.85305
Eliminate 3	65.7773	52.067275	1.52375	78.1306	26.26808	95.92405
Eliminate 6	59.54605	50.1771	1.517275	78.250825	26.42255	96.101775
Eliminate 9	56.010425	48.99085	1.512725	78.374525	26.5027	96.383
Eliminate 25	46.624225	45.950875	1.508675	78.974125	26.31098	96.8398

METRIC ID	PRD	SHDI	SIDI	SHEI	SIEI
No Treatment	0.6545	1.274675	0.6342	0.2828	0.641275
Eliminate 3	0.655925	1.287075	0.6351	0.28535	0.64215
Eliminate 6	0.6556	1.281375	0.63375	0.284025	0.640775
Eliminate 9	0.6566	1.27765	0.63275	0.28315	0.63975
Eliminate 25	0.666075	1.2636	0.629375	0.2793	0.63625









Further improvements, next step...

- More accurate and meaningful classification
- More diversity in natural landscapes (climates, land cover, etc.)
- Examine post processing techniques in greater detail
- Examine metrics in greater detail
- More Intensive systematic analysis of the output data